



# The Effect of the COVID-19 Pandemic on Opioid Prescribing for Patients with Pleuritic Pain

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## KEY POINT

✔ Assess the frequency and amount of opioids prescribed to COVID-19 patients during the first wave of the pandemic

### BACKGROUND

More than **500,000** people have **died of opioid related overdoses** in the US since the year 2000<sup>1,2</sup>.

In part, **long-term use of opioids** has been attributed to **physician prescribing behavior** including the acute treatment of pain in the hospital inpatient setting<sup>3</sup>.

Many worry that **relaxed oversight** of opioid prescribing during the first wave of the COVID-19 pandemic, as well as **increased time spent in the ICU and hospital** by COVID-19 patients may have led to **increased opioid prescribing** in the hospital during this period<sup>4,5</sup>.

This study used a **retrospective analysis** of hospitalized patients with **pleuritic pain** from the **beginning of February 2020 to the end of April 2020** to investigate **how opioid prescribing behavior differed between COVID-19 positive and negative patients during the first wave of the pandemic**.

### HYPOTHESIS

#### Hypothesis #1:

Inpatient physicians prescribed opioids more often to COVID-19 positive than negative patients during the first wave of the pandemic.

#### Hypothesis #2:

Inpatient physicians prescribed opioids more often to COVID-19 negative patients in the intra-pandemic period compared to pre-pandemic period.

#### Hypothesis #3:

COVID-19 positive patients were prescribed a greater average daily dose of opioids (MMEs) compared to COVID-19 negative patients in the intra-pandemic period.

### STUDY SUBJECTS AND DESIGN

Out of 3169 patients with pleuritic pain during the study period (February through the end of April 2020), 1400 were found to meet inclusion criteria, which included:

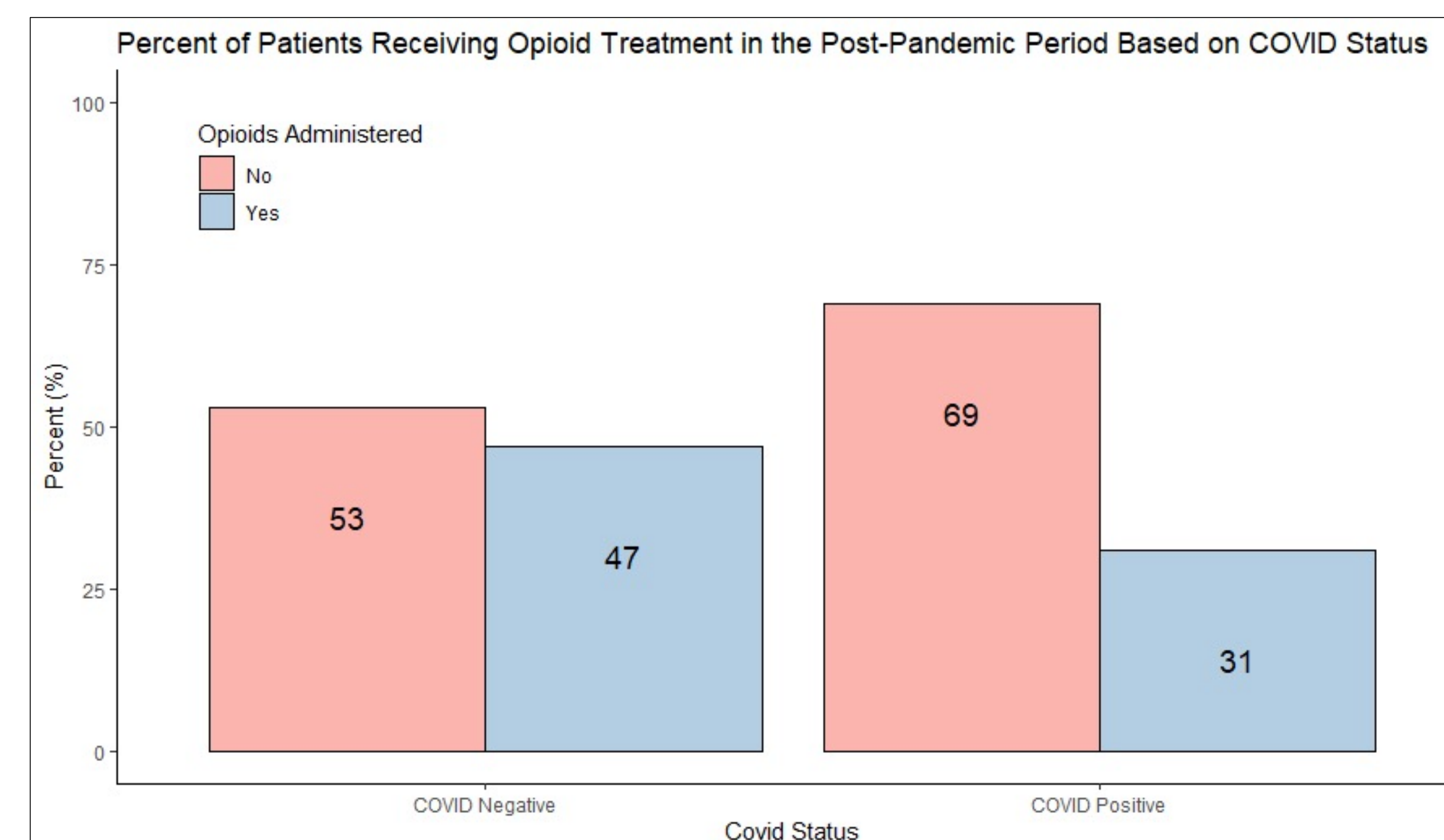
- >18 y/o
- Treatment by internal medicine and family medicine hospital services
- Inpatient or observation status

Patients were not included if they had a diagnosis of sickle cell disease or if they were treated by medical oncology services or hospice care

Data was compared utilizing linear and logistic regression models.

### RESULTS—HYPOTHESIS #1

Odds of Being Treated with Opioids During Hospitalization		
Variable	Adjusted Odds Ratio	P-Value
COVID (+)	0.44 (0.08 to 0.80)	<0.001
Age	0.99 (0.98 to 1.00)	0.196
Male Sex	0.66 (0.34 to 0.97)	0.008
Length of Stay	1.16 (1.01 to 1.16)	<0.001
Charleston Comorbidity Index	1.08 (1.01 to 1.16)	0.039



### RESULTS—HYPOTHESIS #3

Table 3. Difference in Daily MMEs After Log Conversion for Patients Given Opioids			
Comparative Groups	Daily MME Difference (95% CI)	% Difference (95% CI)	P-Value
COVID (-) Pre vs. Intra-Pandemic	-0.09mg (-0.26 to 0.13mg)	0.31% (1.18 to -0.39%)	0.406
*COVID (-) Pre-Pandemic: 25 [12-57]			
*COVID (-) Pandemic: 29.3 [11-65]			
COVID (+) vs. (-) Intra-Pandemic	0.93mg (0.38 to 1.69mg)	3.02% (1.07 to 5.85%)	<0.001
*COVID (+): 63.7 [17.35-251]			

\*Median [IQR] of daily MMEs of population subsets

### CONCLUSIONS

- 1) COVID-19 positive patients were less likely to be prescribed opioids during their hospitalization compared to their COVID-19 negative counterparts during the intra-pandemic period.
- 2) There was no difference in the frequency of opioid prescription between COVID-19 negative patients pre- and intra-pandemic.
- 3) Of the patients prescribed opioids during their hospitalization, COVID-19 patients received a higher average daily dose of opioids (MMEs) compared to COVID-19 negative patients during the same period. This was likely due to the high rate of opioid infusion treatment during hospitalization for COVID-19 patients during the first wave of the pandemic.

### REFERENCES

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